355 Family testing: the 17-year experience of Brittany (western France)

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In Brittany, extended testing is largely proposed in families of CF patients since the late 80's. The aim of this study was to report 17-year experience of family testing in Brittany and to assess its impact on incidence (period 1989–2005). We selected, among all the prenatal diagnoses (PDs) performed in women living in that region over the study period, those performed in couples whose one-in-four risk was identified through family testing (46/264, 7.4%). We described the number of PDs realised, the relationship with the probant, the proportion of CF-fetuses diagnosed and of consecutive terminations, and assessed the resulting modification in incidence. Over the study period, extended testing in families of CF patients led to the identification of 20 new one-in-four risk couples who opted for PD 40 times (number per couple: [1–4]). The relationship with the CF child(ren) were: uncle/aunt (n = 8, 40.0%), sibling (n = 5, 20.0%), cousin (n = 5, 20.0%), niece (n = 1, 5.0%) or second wife of a father (n = 1–5.0%). A total of 12 CF fetuses were diagnosed, all of whom were terminated. Family testing is also proposed when an heterozygote is identified through newborn screening. This led to detect 5 new one-in-four risk couples (4 parents and 1 uncle) who opted for PD 6 times. One CF fetus was identified and terminated. Overall, these 13 pregnancies terminations represented 16.0% of all the terminations made following a positive PD of CF over that period (n = 81). This study shows that family testing is largely proposed in Brittany and contributes to decrease the disease incidence in that region.

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356 Newborn screening (NBS) facilitates diagnosis of previously unrecognised CF in older siblings

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Introduction: Within the Czech pilot NBS project (2/2005–11/2006) neonatal CF screening was performed in 76,438 neonates. CF was diagnosed in 12 neonates. 7 of them were first born, 5 had older siblings. All of the siblings underwent a sweat test and 3 of them were diagnosed with CF.

i. NBS CF girl born 4/2005, F508del/G551D CFTR genotype. Her 3-year-old sister had been followed up since infancy for hepatopathy of unknown origin. Sweat Cl^- 103.2 mmol/l together with an identical CFTR genotype and pancreatic insufficiency confirmed CF. Complex treatment led to liver status normalization and good further progress with only an intermittent *S. aureus* airway infection.
ii. NBS CF girl born 3/2006, F508del/I336K CFTR genotype. Her 13-year-old brother had a history of recurrent respiratory infections. Sweat Cl^- 99–96 mmol/l together with an identical CFTR genotype confirmed CF. He was pancreaticly sufficient. Since complex airway clearance treatment was initiated he has had no more respiratory problems, a normal FEV1, and only intermitent *S. aureus* airway infection.
iii. NBS CF boy born 9/2006, F508del/3849+10kbCT CFTR genotype. His 3-year-old brother had a history of recurrent respiratory infections. Sweat Cl^- 93–88 mmol/l and an identical CFTR genotype confirmed the diagnosis. He was pancreaticly sufficient. Since complex treatment initiation he has had no more clinical respiratory problems and only intermitent *S. aureus* airway infection.

Conclusion: Besides detection of CF in asymptomatic neonates, NBS also helps diagnose CF in their older siblings whose diagnosis would otherwise have been made at a much later time.

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357 Survey of the information provided for parents about newborn screening for CF in European programmes

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The ECFS NBS WG provides a forum for CF professionals to produce guidelines on critical issues and assisting implementing NBS across Europe. A questionnaire sent to 20 NBS programmes examined the provision of information to (1) all parents about CF NBS, (2) parents of infants referred to a CF center for further assessment, (3) parents of infants with CF (positive diagnosis CF NBS), (4) parents of carriers and (5) parents of non-affected infants (negative NBS).

17 questionnaires (85%) were completed: Austria, France, UK (1 response on behalf of 5 current programmes), Czech Rep, Spain (4/4), Italy (9/11), Wales (0/1). Information for (1) provided about the NBS process was similar, usually after birth (14/17) with a booklet (53%), by a paediatrician (p), nurse (n) or midwife (11, 9, 6); (2) was mainly delivered by phone call (14/17), by the CF p, n, CF geneticist (g) (7, 6, 2), with a reason of "borderline biological value to be controlled", CF was explicitly mentioned in 35%; (3) was provided from a CF p in all cases (plus a CF g in 41%) given to both parents always, plus the baby in 53% with a booklet available in 59%; (4) on carrier status (11 programmes include mutation analysis) was communicated by a CF p or g (9, 7) to both parents (10/11) and DNA testing of both parents was suggested in 82%. In UK, parents are provided with an information sheet and support from community nurses; (5) the good health of the baby and the uselessness of further investigations was emphasized. The results of this survey suggest some consistent themes across Europe, however there are examples of clear differences which will be elaborated on, with the presentation of specific examples.

358* Towards a consensus on the investigation and management of infants with an equivocal diagnosis following newborn screening for cystic fibrosis

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Introduction: Newborn screening (NBS) for Cystic Fibrosis (CF) may result in recognition of infants with an equivocal diagnosis. We employed the Delphi process to form an international consensus on how to investigate and manage these infants.

Method: 21 statements, composed by a core group, (CC, AM and KWS), were circulated by email to 80 CF specialists with an interest in this area. For each statement, the specialist was asked to tick one of 3 options: agree; could agree if reworded or disagree. Comments were requested. 80% was determined a priori to be the level of agreement constituting consensus.

Results: 39 responses from CF specialists in 10 European countries have been received for stage 1. Consensus has been achieved on 10 statements; 7 are approaching consensus (>60%). 4 statements have a poor level of agreement. These include guidance on appropriate clinical investigations, the need for further physiological investigation and appropriate follow up when such tests are normal. Comments from stage 1 will contribute to achieving consensus following stage 2. All responders will be invited to contribute to stage 2. They will be provided with the stage 1 results and a second set of proposed statements.

Conclusion: After a good response, a reasonable level of consensus was achieved after stage 1. We plan to complete stage 2 by April 2007. The statements should provide a valuable resource for CF teams with emerging or established NBS programmes.